

## FY2016 Climate Observation Division Information Sheet

### *In Situ* Technologies to Contribute to the Tropical Pacific Observing System (TPOS 2020) Project

#### Background

The Climate Observation Division (COD) of NOAA's Climate Program Office provides long-term, high-quality, global *in situ* observational data, information and products in support of climate, Arctic, weather, and ocean research communities, forecasters, and other service providers and users, for the benefit of society. These global observations and analyses of observational data provide our Nation with invaluable information needed to better minimize climate-related risk and maximize climate-related opportunities.

The current sustained ocean observing system includes *in situ* platforms and instrumentation (e.g. Argo floats, gliders, moorings, profilers, and surface drifters), satellites, modeling, and data management efforts. While ships are recognized as an essential component of the observing system, both for taking observations of unique parameters at accuracies not achievable by other platforms and for servicing moorings and other observing platforms, we seek to enhance observing capabilities that can acquire and deliver data more sustainably and cost-effectively. New *in situ* technologies may provide alternate, more cost-effective approaches to meet critical requirements, improve capabilities, and hasten the evolution of the sustained observing system.

#### Details

In this solicitation, COD invites proposals to advance the readiness of *in situ* observing platforms (e.g. floats, gliders, moorings) and assess their potential to address observational requirements and gaps in the tropical Pacific Ocean region. These advancements will contribute to the Tropical Pacific Observing System (TPOS 2020) Project (<http://tpos2020.org/>). While wider use of new capabilities in other areas of global observing may be available the focus of this solicitation is the tropical Pacific Ocean region. Technology proposed should be at a Technology Readiness Level between 4 and 8 ([http://www.sab.noaa.gov/Reports/RRT\\_Report-080604.pdf](http://www.sab.noaa.gov/Reports/RRT_Report-080604.pdf) ; Appendix V.A)

Proposals should focus on the measurement of Essential Ocean Variables (EOVs) as defined in A *Framework for Ocean Observing* [<http://unesdoc.unesco.org/images/0021/002112/211260e.pdf>], the *Implementation Plan for The Global Observing System for Climate in Support of the UNFCCC* ([http://ioc-goos.org/index.php?option=com\\_oe&task=viewDocumentRecord&docID=5756](http://ioc-goos.org/index.php?option=com_oe&task=viewDocumentRecord&docID=5756)), and the *First Technical Experts Workshop of the GOOS Biogeochemistry Panel: Defining Essential Ocean Variables for Biogeochemistry* ([http://www.iocep.org/images/10FOO/Technical%20Experts%20Meeting%20Report\\_Draft\\_20140212.pdf](http://www.iocep.org/images/10FOO/Technical%20Experts%20Meeting%20Report_Draft_20140212.pdf)), which provide the information needed to detect, track and attribute, either directly or using models, changes in the physical and biogeochemical systems of the tropical Pacific. For example, measuring co-located upper ocean temperature, salinity, velocity, winds and air-sea fluxes contributes to our understanding of the dynamics of El Niño/Southern Oscillation (ENSO) and are essential for ENSO monitoring and prediction. *In situ* measurements of these variables provide information regarding processes that are thought to be relevant to the decadal shift in

ENSO and improve our understanding of the Madden–Julian Oscillation (MJO) through observations.

Proposals should include:

- A detailed description of the platform proposed including a basic functional description of the technology and a description of any sensors/instruments carried by the platform
- The identification of the current Technology Readiness Level (TRL) of the proposed technology, how the proposed effort will hasten anticipated progress along the TRL scale, and an assessment of readiness in the context of the aims of the TPOS 2020 project
- A description of any potential cost efficiencies (over existing observational strategies) and/or new/unique capabilities
- Plans to assess the potential impacts of the proposed observational capability on the needs of the user community (e.g. modeling, forecasts, climate-quality data for research)

Proposals should be for a period of up to three years with a funding level up to \$500k/year.

Ship time costs should not be included in the budget or budget justification. If ship time is needed, a brief description of vessel requirements and number of days at sea must be clearly stated in the proposal.

#### **General Guidelines for FY2016 COD proposal submission**

- Principal Investigators submitting a proposal in response to this COD announcement are required to follow the Letters of Intent and Proposal preparation and submission guidelines described in the Climate Program Office FY2016 Federal Funding Opportunity announcement.
- Investigators are strongly encouraged to submit a Letter of Intent prior to developing and submitting a full proposal. Letters of Intent should be sent to Kathy Tedesco ([kathy.tedesco@noaa.gov](mailto:kathy.tedesco@noaa.gov))
- Administrative questions regarding the Federal Funding Opportunity (e. g. proposal formatting or submission guidelines) should be directed to Diane Brown ([diane.brown@noaa.gov](mailto:diane.brown@noaa.gov))
- Questions regarding details of the solicitation should be directed to Kathy Tedesco ([Kathy.Tedesco@noaa.gov](mailto:Kathy.Tedesco@noaa.gov))